

N60495.000058
NAS FALLON
SSIC NO. 5090.3

Waste Management
Corrective Actions
Federal Facilities
Facsimile 885-0868

Air Quality
Water Quality Planning
Facsimile 687-6396

PETER C. MORROS, Director
ION, Administrator

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Administration
Mining Regulation and Reclamation
Water Pollution Control

Facsimile 687-5856

STATE OF NEVADA
BOB MILLER
Governor



DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION

333 W. Nye Lane, Room 138
Carson City, Nevada 89706-0866

May 14, 1997

Mr. Douglas Bonham
Supervising Environmental Engineer
Public Works Department
4755 Pasture Road
NAS Fallon, Nevada 89496

Dear Mr. Bonham:

Please find enclosed, the Nevada Division of Environmental Protection's "No Further Action Determination" and the Navy's signed Decision Document for the Installation Restoration Site identified as Naval Air Station Fallon's Boiler Plant Tanks Site 13.

Please feel free to call me if you need any additional information regarding these documents.

Sincerely,

A handwritten signature in dark ink, appearing to read "David J. Minedew".

David J. Minedew
Supervisor
DoD Branch
Bureau of Federal Facilities

DJM/db

Enclosure

N60495.000058
NAS FALLON
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5/12/97
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DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
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333 W. Nye Lane, Room 138
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" No Further Action " Determination

Facility: Naval Air Station Fallon

Site: Boiler Plant Tanks Site 13 (A Group IV Site)

Latitude 39° 24' 25.30" Longitude 118° 42' 08.04"

References:

Dames and Moore, Preliminary Assessment/Site Inspection Naval Air Station Fallon, Nevada April 1988

Oak Ridge National Laboratory, Remedial investigation/Feasibility Study Work Plan for the Evaluation of Potential Contamination at the Naval Air Station Fallon, Nevada May 1989

USGS, Water-Level Changes and Directions of Ground-Water Flow in the Shallow Aquifer, Fallon Area, Churchill County, Nevada 1993

USGS, Hydrogeology and Potential Effects of Changes in Water Use, Carson Desert Agriculture Area, Churchill County, Nevada 1994

Oak Ridge National Laboratory, Naval Air Station Fallon Remedial Investigation Report, Final September 1994

Oak Ridge National Laboratory, Engineering Evaluation/Cost Analysis for Site 13, Boiler Plant Tanks December 1995

Oak Ridge National Laboratory, Engineering Evaluation/Cost Analysis for Site 14, Boiler Plant Tanks January 1996

Department of the Navy's Decision Document for Site 13 Boiler Plant Tanks Naval Air Station Fallon, Nevada September 1996

Page two
Boiler Plant Tanks NAS Site 13

File: Written communication between Nevada Division of Environmental Protection (NDEP), NAS Fallon personnel, EPA Region IX, and analytical data.

Records Retention:

All records and references are retained at the Carson City office of the Division of Environmental Protection.

Site Visit Dates: 4/12/91 9/19/95

Remarks:

NAS Fallon is located on typically fine grained soils, although portions of a particular soil profile may contain coarse grained material. Soil permeabilities across the installation generally range from 1.4×10^{-4} to 1.4×10^{-2} cm/s. The soils in the area of site 13 are dominantly very fine to medium-grained sand, poorly sorted, from 2-5 ft. thick intertonguing with silty sands, sandy silts, and silty clay. The average rain fall is 5.42 inches per year and the approximate evapotranspiration rate is 29 inches per year in this area. Groundwater in the shallow aquifer is approximately 3-10 ft. below ground surface across NAS Fallon. The closest well to the installation is 1/2 mile southeast. Its current use is unknown but is thought to be for agricultural purposes because of the high mineral content. Due to the location of Site 13 at NAS Fallon, the land-use designation for the site is unlikely to change in the future.

To facilitate referencing, previous environmental activities have referred to Site 13 as part of the Group IV Sites at NAS Fallon. This grouping is based upon the proximity of the sites to one another and the similarity of contaminants. A total of nine sites make up the Group IV Sites.

Site 13 is located in the southern portion of NAS Fallon. (see attached map) The site consisted of two 26,000 gallon underground storage tanks (USTs) to store fuel for the boiler plant. Boiler plant fuel storage was discontinued in 1981, at which time the tanks were used for the storage of other fuels and oils until about 1986.

The tanks were removed in the summer of 1992. Fuels were spilled around the tank inlets during filling operations. Spills may have consisted of No. 6 fuel oil (aka Bunker C), waste lubrication oil, hydraulic fluid, JP-5, and diesel fuel. One 8,000 gallon bulk fuel above ground storage tank (AST) and another 11,000 gallon AST remain at the site as a backup fuel source for the natural gas boilers.

Remarks cont.

Extensive soil borings and monitoring well samples were taken during the first and second iteration of the Phase II site characterization at the Group IV Sites which includes Site 13. (See Engineering Evaluation Cost Analysis for Site 13 Boiler Tank Plants Dec. 1995) Soil samples were analyzed for low-boiling-point petroleum hydrocarbons (LBPHCs), high-boiling-point petroleum hydrocarbons (HBPHCs), semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs)/pesticides, anions, and metals.

The soil samples collected from Site 13 during first iteration activities had no detectable contamination other than laboratory analyses related compounds.

UST removal activities at the site in 1992 revealed that the ground surface was covered with six to ten inches of, asphaltic material formed by the overflow of the fuel oil. During excavation, visibly contaminated soil with a petroleum odor was observed from the surface to the water table. Soil samples from the excavation pits had HBPHC concentrations as high as 12,000 mg/kg. The samples contained very low concentrations of VOCs. A ground water sample from the pit contained an HBPHC concentration of 140 ug/l but no detectable VOCs.

Following the tank removals, the pits were lined with 10-mil plastic and backfilled with the excavated materials. A second layer of 10-mil plastic was laid over the contaminated fill and the area was brought to grade with clean road base material. The surface was mounded and covered with 30-mil plastic. An additional 18" of road base material was placed over the site to prevent infiltration of surface water. Two years later, a confirmatory sample was taken from soils in the former tank pit. The sample contained 7,800 mg/kg total HBPHCs, 6,700 mg/kg in the range of Bunker C fuel oil and 1,100 mg/kg in the range of diesel fuel. Although these concentrations of Total Petroleum Hydrocarbons (TPH) are above the State Action Level of 100 ppm, groundwater at the site has not been significantly impacted, nor is it expected to be based on the low migration potential of Bunker C and Jet Fuel (Carbon range C10-C30). No VOCs were detected in the sample.

Groundwater sampling at the Group IV sites has involved boring 199 groundwater test holes, and installing 25 monitoring wells and 19 piezometer. Seventeen groundwater test holes and five monitoring wells were specifically drilled at Site 13. Water samples from the monitoring wells were analyzed for LBPHCs, HBPHCs, SVOCs, VOCs, PCB/Pesticides, anions, metals, temperature, pH, and conductivity.

Page four
Boiler Plant Tanks NAS Site 13

Remarks cont.

Contamination detected in soil samples collected during the installation of monitoring wells MW-21, MW-22, MW-23, MW-24, and MW-55 at Site 13 were below the State Action Levels in the NDEP Remediation Policy dated June 1992 and the amendments to Chapter 445A of the Nevada Administrative Code, effective October 1996. Groundwater at the site will continue to be monitored as part of the groundwater monitoring for Site 12 and Site 14. TPH as diesel has been detected in monitoring wells located down gradient of Site 13. However, TPH was not detected during the most recent sampling events conducted in October 1993, March 1995, and September 1996. This was the fourth sampling event to confirm non-detect levels of the constituents tested at this site.

An Engineering Evaluation/Cost Analysis for Site 13, Boiler Plant Tanks was prepared by Oak Ridge National Laboratory's Environmental Technology Section and was finalized December 1995. This evaluation and analysis surmised, " Environmental fate and transport data indicate that soil contaminants at Site 13 exhibit low mobility in the environment due to high viscosity, low volatility, low solubility in water, and strong sorption to soils. The remedial alternatives analysis indicates that Alternative 1, no action, scored highest followed by Alternative 3, excavation and off-site treatment/disposal. Off-site treatment ranked higher than off-site disposal due to the high cost of landfilling the contaminated soil. Alternative 2, excavation and on-site landfarming, scored lowest due to the ineffectiveness and poor implementability of landfarming No. 6 fuel oil".

Quality Assurance/Quality Control

Samples were taken by Kleinfelder Engineering at the September 1996 sampling event. The samples were submitted to Nevada Environmental Laboratory (NEL) for analysis. The samples were received in "good condition" and under chain of custody. All analyses met QA/QC parameters except for the four analyses attached.

Public Hearing Date: 3/30/95

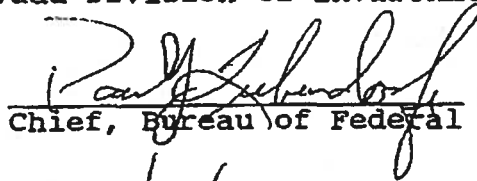
Comments received: See minutes of Restoration Advisory Board meeting, 3/30/95, in file.

Page five
Boiler Plant Tanks NAS Site 13

Conclusion: Because of the above mentioned findings, this site should require "No Further Action", unless future information is forthcoming which would necessitate the reevaluation of this site. Because solid and liquid waste, some of which may be potentially hazardous waste, remain at the site, the site will be identified in installation real estate records and land use restrictions are necessary so that any natural or engineered containment controls that currently exist at the site are not altered or modified. Any transfer of the real property on which this site exists must conform to 42 U.S.C.A. § 9620.

Nevada Division of Environmental Protection

By



Chief, Bureau of Federal Facilities

Date

5/12/97

cc: U.S. Environmental Protection Agency Region IX
NAS Fallon

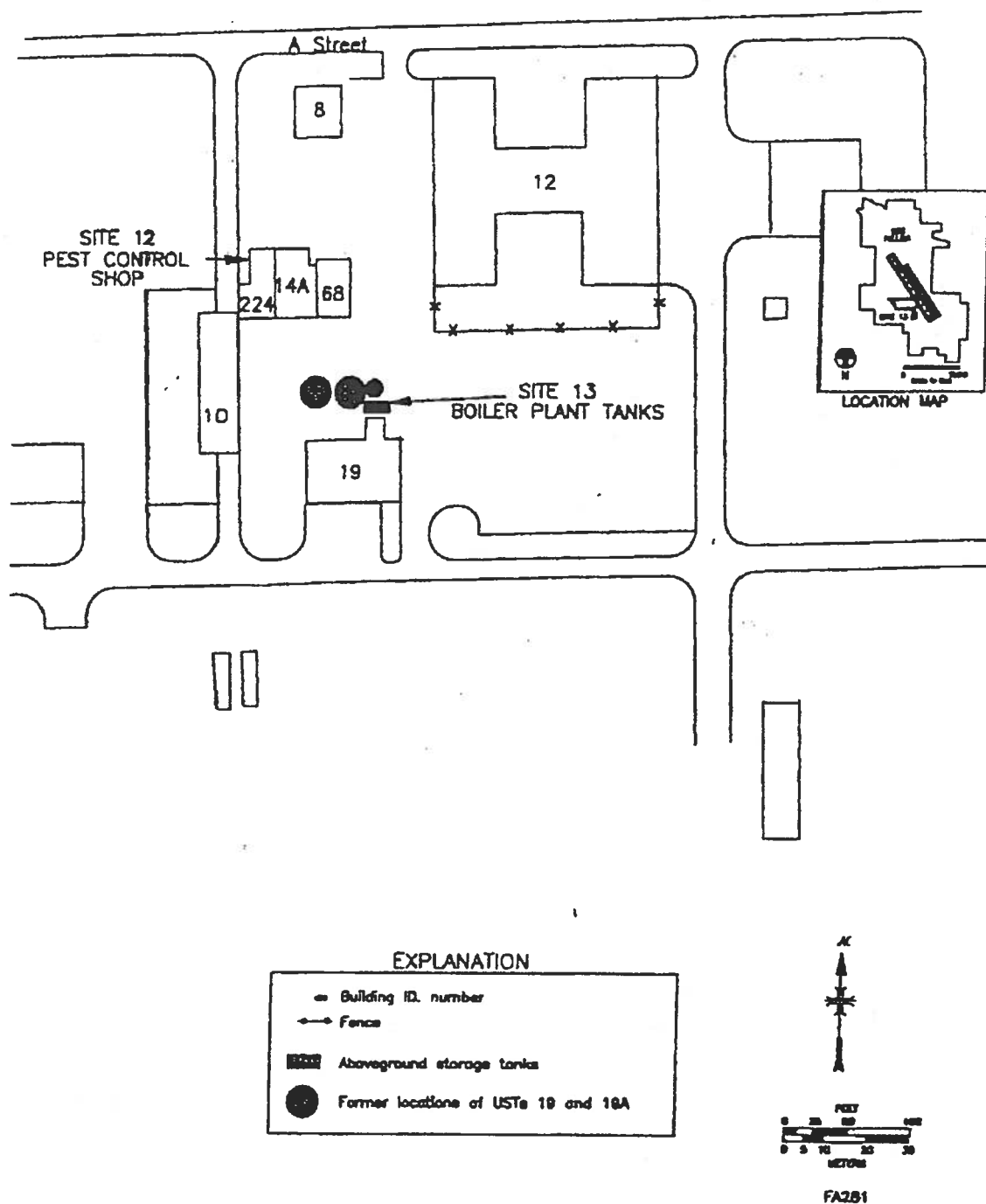


Fig. 2. Map of Site 13, Boiler Plant Tanks, showing the locations of former USTs 19 and 19A.



Fig. 3. Site 13 sample locations and soil contaminant boundary map.

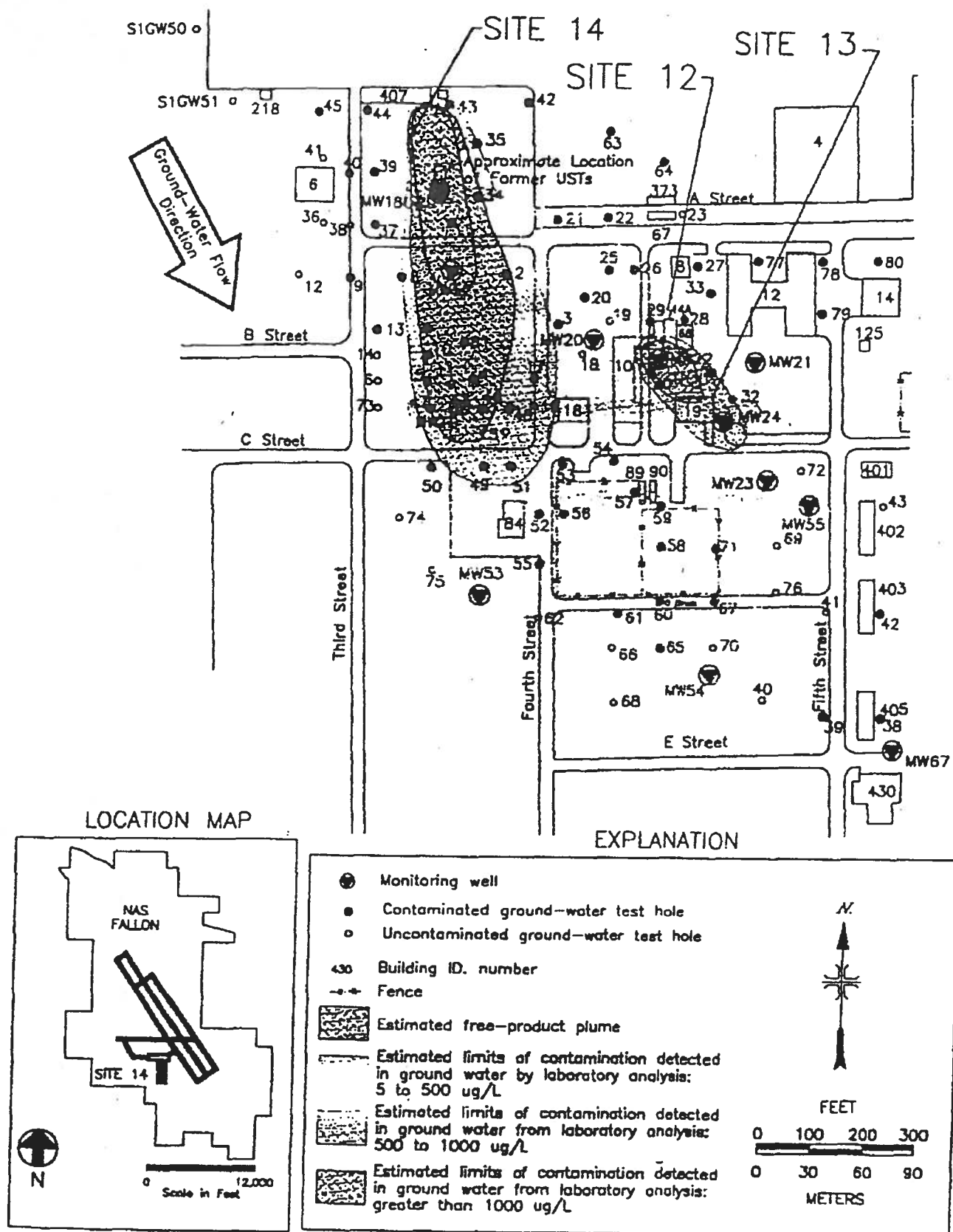


Fig. 4. Site 14 sample locations and contaminant boundaries.

